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PHARMACY IN PRUSSIA AND IN THE GERMAN EMPIRE.

BY FRED. HOFFMANN, PH. D.*

The management of the medical affairs in Prussia belongs to the Ministry of Ecclesiastic, Educational and Medical Affairs. With the entire internal executive administration of the empire, it is ultimately concentrated in the bureau of the imperial Chancellor. In both these supreme departments all administrative branches are represented by boards composed of administrative and technical councillors.

The highest administrative bureaus of the civil government in the Provinces of the empire are the Provincial Presidency (Oberpräsidium), whose chief is the "Oberpräsident," or Governor, and the District Governments, or Regencies (Regierungen). Each province has only one governor; but, in proportion to its area and number of inhabitants, they are divided into two or more Regencies, in which the administrative branches are also represented by boards.

The Regency of the provincial capital, which is the seat of the Governor and the superior military, civil, judiciary, ecclesiastical and educational authorities, has, among others, a department for the medical and sanitary affairs of the province (Medicinal-Collegium), presided over by the Governor and by the President of the Regency. The councillors of this board are two physicians, one or two pharmacutists, one veterinary surgeon, and one or two jurists.

The regencies are subdivided into districts or counties (Kreise), the

*This essay has been written at the request of the Editor of the Journal, and to him I am indebted for the translation of the greater part of it from German into English.

medical and sanitary affairs of which, not properly belonging to the department of Police or to municipal supervision, are guarded by the district physicus (a health officer who is a physician), the district pharmacist and the district veterinary surgeon. Their authority is limited to memorializing the provincial Regency, obtaining the decisions and regulations of the latter, and initiating their enforcement.

More important administrative affairs are reported either directly to the Provincial Medical Council or to the Governor, or, like the establishment of new pharmacies, have to pass through all the successive bureaus to receive the final decision of the Governor. In such cases reports are demanded of the interested parties, of the municipal authorities, of the district or city physicus, and of the provincial medical council.

The only direct control which the government exercises over the pharmacies and pharmacutists consists in the inspection of the pharmacies, which is compulsory every three years, but which may be performed oftener if judged necessary, or if called for by the apothecary or by the district or municipal authorities. This inspection is no dead-letter, but is a severe searching operation, performed by a delegation nominated by the Provincial government, and consisting of the presiding medical councillor of the Provincial government (Regierungs-Medicinalrath), the district physicus, the district and some other delegated apothecary. One or more representatives of the local municipal authorities are always invited to attend the inspection. Not only are the drugs and the entire stock examined, but also the assistants and apprentices. The inspectors examine the apothecary's diploma, license, pharmacopœia, library, herbarium, prescription books, and the prices charged for the prescriptions therein. Assistants and apprentices are required to show their examination certificates, are asked questions on the pharmaceutical sciences, on the pharmacopœia, and have to submit to an inquiry into their studies, diligence, and progress. Most drugs, especially those liable to sophistication, and all pharmaceutical and chemical preparations, are examined and tested. Store, laboratory, storerooms and cellar are inspected minutely. A résumé of the entire inspection is made and signed by all delegates and witnesses, and is sent to and kept by the Provincial government. From this the apothecary receives a report of the result of the inspection, with either acknowledging reflections, coun-

sels for his or his assistants benefit, or polite but precise and firm reprimands.

Another less severe control of the government is exercised by the requirement that the district physicus and apothecary have to be informed of any change of the assistants and apprentices. The assistants, when entering a new situation, have to present themselves to the district physicus and apothecary, who have to countersign the certificate required and given to the assistant when leaving his situation.

The intercourse of the civil and judicial authorities with all citizens being dignified and polite, though strict, and without regard to position, means or rank, the relations of the authorities to the apothecaries is likewise characterized by consideration and respect. Like all other professions, there is a great deal required from the apothecary: a high status of professional competency, fidelity and uncompromising reliability. In return, the state grants him protection, and in ordinary life he enjoys the confidence and esteem of the public, by virtue of his vocation.

Pharmaceutical Education.

The young applicant for an apprenticeship receives the requisite permission from the district physicus and district apothecary upon an application accompanied by a curriculum vitæ and testimonials showing that he has reached the second class in a state classical school (gymnasium), or gained the proficiency for the same, and that his reputation and character are good, of which qualifications the district physicus may satisfy himself by personal examination.*

The apprenticeship has been fixed for three years, of which time an abatement of six months is allowed to those only who previously had attained the necessary qualifications for immatriculation at a university. The preceptor is bound to instruct his apprentices, theoretically as well as practically, in pharmacy and its collateral sciences, and to furnish the requisite apparatus for this purpose. Sufficient time must be allowed to the young men, aside from their daily labor

*It deserves to be mentioned that in Prussia a thorough preliminary and school education is demanded as the requisite foundation of subsequent capability and profoundness. This is rendered possible by an excellent educational system, and is made the *conditio sine qua non* on entering upon any professional career.

in the officine and laboratory, to prosecute their studies, and in summer to undertake botanical excursions for the purpose of preparing a herbarium. They have to keep a journal of all preparations made by them, and to enter therein a short description of the theory and the practice of the processes.

When the apprenticeship has been completed to the satisfaction of the preceptor, the apprentice is examined by a commission consisting of the district physicus and apothecary, and, if desired, in the presence of the preceptor. This examination is practical and verbal, the main aim of the former being to ascertain whether the candidate may be safely entrusted with the functions of an assistant; it consists in the reading and pricing, according to the legal valuation, of prescriptions, and the putting up of three of a rather difficult nature, and in proving his competency to perform the practical labors in the laboratory. The verbal examination embraces the fundamental principles of botany, materia medica, theoretical chemistry, natural philosophy, the recognition and terminological demonstration of fresh or dried indigenous and medicinal plants, the pharmacological determination of drugs and their adulterations, the processes, tests and doses of pharmaceutical and chemical preparations, and the legal enactments concerning the duties, &c., of assistants. Failing to pass a satisfactory examination subjects the candidate to a prolongation of his apprenticeship for six months; on failing in the third, another examination will not be granted, and the young man will have to quit following pharmacy as a pursuit.

On receiving the testimonials of the successful accomplishment of his apprenticeship and examination, he acquires the title of pharmaceutical assistant, and the right to act in this capacity. As such, he shares the responsibility of his employer for the proper conduct of the officine, except where he merely carries out the direct orders of the same. After a term of service of at least three years, not less than two of which in German officines, the assistant may enter the university course of his studies, lasting at least one year.

There are no special schools or colleges of pharmacy in Germany, since universities there are centres of all scientific branches, required for the higher professional vocations.

At the universities it is optional with the student to elect the courses of lectures and the professors delivering the same, and no inquisitive supervision or control is exercised over his attendance at

the lectures and his diligence. The pharmacist has to produce the lecture tickets on general, pharmaceutical and analytical chemistry, on botany, pharmaceutical botany, materia medica, natural philosophy, and on the practical course in the university laboratory. Besides these special branches, the pharmacists, together with the other students, attend, according to their inclination, the public lectures (publica) on sciences or branches that are of general interest, or delivered by ardent, animating professors. These lectures, the attendants of which belong to all the different faculties, are, particularly at the large universities of Berlin, Bonn, Leipsic, Munich, Breslau, Heidelberg, Goettingen, &c., very largely patronized and full of interest, from the themes as well as the lecturers.

The application for entering the university and for admission to the state examination, is made to the director of pharmaceutical studies, who, at most of the universities, is one of the professors.

The state examination—a term applied in Prussia to the last and most extensive professional examination—is held by boards appointed by the Ministry of Ecclesiastic, Educational and Medical Affairs. Until 1855 this examination had to be made by physicians and pharmacists, in Berlin, before the medical examining board (Oberexaminations-Commission).

Since that time, however, every province has been provided with such a board, composed, by appointment by said Minister of the medical and pharmaceutical councillors of the regency, of professors of the university located in the province, of physicians and apothecaries.

The examination consists of the tentamen, the course, and the final examination. Those only having passed the first two are admitted to the final ordeal.

In the tentamen the candidate must answer in writing and in clausure, under the supervision of one or more of the examiners, a number of questions on chemistry, practical pharmacy, botany and materia medica. If his answers are satisfactory, he receives some chemical subject for a thesis, to complete which he is allowed several months' time, and every facility of literary auxiliaries and references, all of which have to be cited. These essays are often complete monographs, and evidence the author's acquaintance with the pharmaceutical and collateral literature as well as his literary qualification.

Meanwhile the candidate is admitted to the most comprehensive part, the course examination, consisting in a series of practical writ-

ten and verbal examinations, covering the whole field of pharmaceutical acquirements, and extending over one or several months. Among others, it includes the preparation of several pharmaceutical preparations, the execution of a qualitative and a quantitative chemical analysis of an inorganic compound, or of a mixture of, to the candidate, unknown composition, the execution of a forensic analysis of some animal or organic substance, containing one or more poisonous admixtures, and a report thereof in full, as required by and directed to a court, in order to determine the candidate's ability to act as expert in legal investigations. The verbal examination extends over the sciences of botany, pharmacognosy, general, analytical, and pharmaceutical chemistry, toxicology and pharmaceutical laws.

The final examination, which is verbal and public, and to which not more than four candidates are admitted at one time, is passed before the entire board. It comprises an interrogative survey over all the sciences auxiliary to pharmacy, and the legal relations of the apothecary.

The grades of the final course are, excellent, very good, good, and insufficient, the latter making a repetition of the examination necessary after six months; failing to pass after two such postponements is equivalent to a definite rejection.

The chairman of the board reports the entire proceedings, including the documents of application and other papers, to the Ministry of the Ecclesiastic, Educational and Medical Affairs, from which the candidate receives the certificate of qualification (Approbation as Apothecary), requisite for conducting any officine in the German empire, and for being eligible to the administrative offices of district or government apothecary, and to the appointment as inspector of pharmacies.

The apothecary's oath is administered by the district or city physician on the occasion of the purchase or lease of an officine, and on accepting the administration of one. Thereby the pharmacist engages to exercise the duties of his calling, in accordance with the laws and regulations, with fidelity and conscientiousness, and to the best of his ability.

(To be continued in the next number.)

THE PRESERVATION OF VACCINE.

The publication of the annexed letter in the Amer. Journ. of Pharmacy will accomplish three objects. 1st. It *demonstrates* the possi-

bility of keeping vaccine one year!! under mercury, as per essay of David Stewart in a recent number; the good crust referred to having been submerged in *June*, 1870, and those returned by Dr. T. being its progeny in *June*, 1871. 2d. It may suggest the idea that a much longer preservation is practicable; and, 3d. The postage stamp indicates a rare degree of honesty, also a more important *principle* (if possible) in such publications when made in *scientific* periodicals.

DAVID STEWART, PH. D.

Port Penn, Delaware, 24th June, 1871.

ST. GEORGE'S, June 21st, 1871.

DEAR SIR,—I enclose you three fresh vaccine crusts. The one you sent me was good, for which I am much obliged to you, and regret I did not think when I asked you to send it to me to leave a stamp to pay the postage.

Very respectfully yours,

WM. A. TATEM.

D. STEWART, M. D.

BROMIDE OF CERIUM.

By CHARLES BULLOCK.

Having a request from a medical friend to furnish him with several ounces of bromide of cerium, the preparation of the salt was started from the oxalate, it being the only available commercial salt of cerium.

The oxalate was calcined in a porcelain capsule, over a gas furnace, with occasional stirring of the contents of the capsule, until the oxalate was converted into the yellowish brown sesquioxide of cerium, losing one-half its weight by the change.

The sesquioxide was dissolved in hydrochloric acid (with copious evolution of chlorine), and to the chloride carbonate of soda was added, which precipitated the cerium as a white carbonate, insoluble in an excess of the alkaline carbonate.

The carbonate of cerium was dissolved in hydrobromic acid, requiring nearly twice the weight of sesquioxide in bromine as hydrobromic acid for saturation.

The solution of bromide of cerium decomposes while evaporating, even at a low temperature, disengaging acid fumes. When evaporated to dryness, and pulverized, the salt has a light chocolate color, the taste is somewhat sweet and very styptic. It is very deliquescent, and dissolves to a considerable extent in alcohol of 95 per cent. The

dry salt leaves an insoluble sediment when dissolved in water; this sediment has a light gray color; when heated with oxide of manganese and sulphuric acid it does not evolve bromine; heated with dilute hydrochloric acid it dissolves quietly, without disengagement of chlorine, showing by these reactions the character of a protoxide.

As the *bromide* of cerium is new in therapeutics, we trust that the able experimenter for whom the salt was prepared will furnish us with his experience in the administration of the salt.

Philadelphia, July 10, 1871.

PRESERVATION OF TINCT. KINO FROM GELATINIZING.

By J. W. Wood, Rokeby, Del.

Among all our tinctures, perhaps there is not one so liable to deteriorate by exposure, or by long keeping, as tincture of kino, made in accordance with the U. S. Pharmacopœia; its well known property of gelatinizing in a short time—a property which yet remains to be investigated—being thereby rendered inert, precludes it from being as extensively used as its virtues would seem to warrant.

This property renders it inadmissible when we desire a reliable tincture, to prepare it in large quantities.

The pharmacopœia formerly directed it to be prepared with dilute alcohol as the menstruum; but later it was thought to be of advantage to increase the proportion of alcohol to two thirds; yet it is doubtful if there was much gained by this change.

I would therefore submit the following mode of preparation, which I consider, from the experience I have had, will meet with the desired end, and up to the present time results do not seem to disprove it. It is as follows:

R.	Kino in fine powder	ʒiiss
	Alcohol	·835 fʒviii
	Aquæ	fʒiv
	Glycerinæ	fʒiv

Mix the alcohol, water and glycerin together, and having mixed the kino with an equal bulk of clean sand, introduce in a percolator and pour on the menstruum.

This menstruum seems to thoroughly exhaust the drug of its astringent principle, and also makes a nice looking preparation.

Some which I made on the sixteenth day of July, 1870, was ex-

posed to the influence of the atmosphere, the stopper of the bottle containing it having been removed for several months, so that it had evaporated to at least two-thirds; yet it remains as good as when freshly made, without any apparent tendency to gelatinize.

The menstruum might be somewhat modified, perhaps with advantage, as, for instance, by using proportionally less alcohol and more glycerin and water, or *vice versa*. At any rate I will give it for what it is worth; adding at the same time the suggestion—and it is only a suggestion—that the same menstruum be employed in preparing tinct. catechu, which, though not so liable to gelatinize as tinct. kino, yet sometimes does so.

NOTE ON CHLORAL HYDRATE.

BY CHAS. A. BOEHME.

Some three or four months since we obtained from one of the leading drug houses in New York, a couple of pound bottles of chloral hydrate. One of these was opened as soon as received, but nothing special noted in its contents. To all appearances it was a good sample; a solution of it not being disturbed by nitrate of silver, and showing no alcohol with Lieben's iodoform test.

The second bottle was placed in a store-room up stairs, where it remained until recently securely sealed. On opening it a dense cloud of fumes was observed to issue from its mouth; this appeared out of place, so the package was set aside until the phenomenon could be investigated. After two or three days the bottle was opened again, when the fumes issued as before. These fumes had the characteristic odor of chloral hydrate, but were somewhat more stifling. They reddened moistened blue litmus paper, and became whiter and more dense when approached by a rod dipped in ammonia. With a drop of a solution of nitrate of silver, suspended in a watch-glass, they gave a white curdy precipitate. Iodized starch paper was not affected by them. Hence, I concluded they consisted, in part at least, of hydrochloric acid.

The lumps of the hydrate near the top of the bottle had crumbled to a crystalline powder. This dissolved freely in distilled water and somewhat in chloroform. In turpentine and bisulphide of carbon it was insoluble.

A portion of it was dissolved in distilled water; the resulting

solution reddened blue litmus slightly, but was unaffected by nitrate of silver. Lieben's test gave but the slightest trace of iodoform. On considering all the above reactions, I am of the opinion that the sample under examination might have been pure hydrate of chloral at first, and been decomposed by standing; whether this is true or not cannot now be told.

Since commencing the above experiments, I have received the June number of the *American Chemist*, and in it noticed Dr. Isidor Walz's article "On The Reaction of Chloral Hydrate and Sulphide of Ammonium," which led me to repeat his experiments on the sample I had in hand. A solution was made with distilled water; this was rendered slightly ammoniacal, and some yellow sulphide of ammonium (which had been in the laboratory about a year) added. The liquid became light brown, then crimson and lastly reddish brown. It deposited a precipitate, which, after washing and drying, was of a dirty yellow color. This powder was dissolved by concentrated sulphuric acid, but deposited again on dilution with water. Concentrated nitric acid oxidized it rapidly, but I could discern no volatile compound formed during the reaction. Chloroform and alcohol dissolve it partially, depositing it as a light yellow mass on evaporation. Heated in a porcelain crucible it gave off a thick yellow oil, of a disagreeable odor, and left a porous coal. Turpentine dissolved it but slightly, if at all.

I next took some freshly prepared protosulphide of ammonium, and added it to an aqueous solution of the chloral hydrate rendered ammoniacal as before. The liquid became first brown and then dark reddish brown, depositing a precipitate which was not as abundant as in the former reaction. The precipitate, when washed and dried, formed a powder of a dirty brown color. Its chemical properties were the same as those of the yellow substance obtained in the first reaction, with these exceptions: It was not oxidized as rapidly by nitric acid; the oil obtained by heating it had a more penetrating odor; its chloroformic solution, when evaporated, left a light brown resinous mass. From this we may conclude, that the two precipitates are similar, if not identical.

Dr. Walz suggests that persons having occasion to test chloral hydrate try the reaction with sulphide of ammonium, as by comparing the deportment with different samples, we may determine its value as a test for the purity of this substance.

Battle Creek, Mich., July 11th, 1871.

ON THE ACTION OF CLORIDES ON CALOMEL.

By MICHAEL J. CUMMINGS.

(From the Author's Inaugural Essay.)

According to M. Mialhe, calomel is in part converted into bi-chloride (corrosive sublimate) and metallic mercury by muriate of ammonia, and by the chlorides of sodium and potassium. Doctor Gardner denies this assertion, and my experiments conform with this authority. Calomel is not converted into corrosive sublimate by the chlorides of the alkalifiable metals at the temperature of the body, but when raised to a temperature nearer the boiling point, it becomes in part slowly converted into corrosive sublimate. Having placed in a flask a mixture of twenty grains of muriate of ammonia, ten grains of calomel and an ounce of water, I set the flask in a water-bath heated to 70°F. and allowed it to stand at this temperature for three days. Finding no change had taken place, the calomel having remained undissolved in the bottom of the flask, I raised the temperature to 80°F.; the clear liquid was not precipitated or colored by lime water, ammonia or sulphuretted hydrogen; the remaining calomel was placed in a filter, washed with distilled water, and the filtrate still gave no indications of corrosive sublimate. I again heated a mixture of muriate of ammonia calomel and water at a temperature of 90°F., dropped into it twenty drops of muriatic acid, continued the heat for three hours, poured off a small quantity of the clear liquid and applied the tests without result. I then raised the temperature to 119°F., and allowing it to remain at this temperature for four hours, found a slight trace of corrosive sublimate; the mixture was allowed to stand until cool and then filtered. The deposit in the filter was washed with distilled water, and to the filtrate an equal bulk of sulphuric ether was added, agitating the mixture briskly for fifteen minutes. The ethereal solution was removed by means of a syphon, evaporated at a low temperature and a minute residue obtained which proved to be corrosive sublimate. Having found the precise point at which calomel will become converted into bi-chloride in the presence of chloride of ammonium, and being desirous of ascertaining the exact quantity, I heated a mixture of calomel muriate of ammonia and water in the quantities indicated above, continuing the heat at 110°F. for six hours, filtered, washed the filter with distilled water and allowed the filtrate to cool. It was agitated with an equal

bulk of sulphuric ether, evaporated and left $\frac{7}{8}$ grain of corrosive sublimate.

When chloride of sodium is used in place of muriate of ammonia, the calomel does not so readily become converted into bi-chloride, but requires a higher temperature. At 110°F. no change takes place, but when kept at 120°F. for twelve hours, the calomel becomes very slowly converted into bi-chloride. The addition of twenty drops of muriatic acid to the quantity used, seems to hasten the reaction. Calomel digested alone with muriatic acid for (12) twelve hours, at a temperature of 120°F. undergoes the same change, but is not affected at a lower temperature. With nitro-muriatic acid the change takes place spontaneously and without any elevation of temperature; raising the temperature to 110°F. does not appear to hasten the reaction.

ANALYSIS OF A SILVER ORE.

BY JOHN L. BEELER.

(From the Author's Inaugural Essay.)

At the suggestion of Dr. F. A. Genth, with whom I was studying analytical chemistry, I made an examination of a silver ore which he had received from near Austin, Nevada.

From the peculiar waxy character of some portions of the surface of the mass, I was led to the conclusion that it contained some little horn silver, and a preliminary examination revealed the presence of a small quantity of chloride of silver, together with the sulphides of silver, antimony, lead, copper and iron with some quartz.

For a quantitative analysis, I took one grm. of the finely powdered ore and fused with 3—4 parts each of sulphur and carbonate of soda. I dissolved out the soluble sulphides of antimony and sodium, by boiling with water in a small evaporating dish, and filtered to collect the insoluble residue. I precipitated the SbS_3 by HCl , filtered, washed thoroughly and oxidized by NO_3 , estimating the antimony as $\text{SbO}_4 = .1022 = .0809 \text{ Sb}$.

I dissolved the insoluble sulphides, &c., in NO_3 and filtered to separate the silica. Reserved the NO_3 solution, and as it appeared that the silica had retained a little silver, I reduced this by caustic soda and grape sugar, filtered and washed out the soda by addition of a little Ac , then thoroughly with water.

Ignited the SiO_2 and weighed.

$$\text{SiO}_2 = \cdot 2363$$

I added the last NO_3 solution to the one I had reserved, and precipitated the silver by HCl , washed, dried and weighed as AgCl .

$$\text{AgCl} = \cdot 5604 = \cdot 4217 \text{ Ag.}$$

Precipitated the copper and lead as sulphides by HS , washed, dried, oxidized by NO_3 , and separated the CuO, SO_3 from the PbO, SO_3 , by dissolving in water. Filtered off the insoluble PbO, SO_3 , washed, dried and weighed as such.

$$\text{PbO}, \text{SO}_3 = \cdot 1491 = \cdot 1018 \text{ Pb.}$$

Precipitated the copper by HS , filtered, washed, dried, ignited, oxidized by NO_3 , added a drop of SO_3 , again ignited and weighed as $\text{CuO}, \text{SO}_3 = \cdot 0240 = \cdot 0095 \text{ Cu.}$

Precipitated the iron as sulphide by NH_4S , filtered and ignited to oxidize, washed again to separate the adhering alkalies, again ignited and weighed as Fe_2O_3 .

$$\text{Fe}_2\text{O}_3 = \cdot 0216 = \cdot 0151 \text{ Fe.}$$

Estimated the sulphur by treating 1 grm. of the powder with NO_3 in presence of bitartrate of potassa to keep the antimonie oxide in solution, and estimated the sulphur as $\text{BaO}, \text{SO}_3 = \cdot 9385 = \cdot 1289 \text{ S.}$

To find the amount of chloride of silver, I treated 1 grm. with NH_4O , and after evaporating off the NH_4O reduced the AgCl by caustic soda and grape sugar, and estimated the silver in the metallic state.

$$\text{Ag} = \cdot 0071; \text{eq. of Cl.} = \cdot 0023, \text{AgCl} = \cdot 0094.$$

Summing up then, 1 gramme gave—

Elements	Combined
$\text{Ag} = 4217$	$\text{AgCl} = 00\cdot 94$
$\text{Cl} = 0023$	$\text{AgS} = 47\cdot 60$
$\text{Sb} = 0809$	$\text{SbS}_3 = 11\cdot 31$
$\text{Pb} = 1018$	$\text{PbS} = 11\cdot 75$
$\text{Cu} = 0095$	$\text{Cu}_2\text{S} = 1\cdot 19$
$\text{Fe} = 0151$	$\text{FeS}_2 = 3\cdot 23$
$\text{S} = 1289$	$\text{SiO}_2 = 23\cdot 63$
$\text{SiO}_2 = 2363$	Loss $00\cdot 35$
Total 9965	100-00

TINCTURA CINCHONÆ ET FERRI CHLORIDI SACCHARATA.

By W. W. SEAY.

I propose the above name and preparation to the framers and revisers of our Pharmacopœia for adoption as officinal. Some such preparation is very much needed at the present time, and by making it officinal would confer a favor on pharmacists, by doing away with some of the great number of weak alcoholic and unreliable proprietary preparations, called "Elixirs," which are now flooding the country. I have the following reasons to offer in favor of making it officinal, to wit:

1st. It is almost impossible for an apothecary to keep on hand all the "Elixirs," as manufactured by the different firms.

2d. It would do away with much confusion which now exists, as to what preparation is designed by the prescription.

3d. It is a very strong preparation, and patients will get more of the properties of the bark than of alcohol.

4th. Any pharmacist can easily prepare it.

5th. I am confident it is a permanent preparation.

6th. It retains the tannic acid, coloring matter, and natural combinations apparently unchanged, at all events without any great chemical disturbance. Tonic properties can be had from it, exceeding any artificial solutions of the alkaloids.

My observations lead me to the conclusion that the protochloride is more active and less astringent than the perchloride, and in this respect will compare favorably with any other salt of iron.

I have altered the mode of preparing the protochloride, so that nearly all exposure to the air is avoided, and a perfectness insured in the hands of the most inexperienced operator. In order to designate this preparation from the preceding one published by me and termed SOLUTION PROTOCHLORIDE IRON, I propose for the name of this syrup Ferrous Chloride.

I sincerely hope and respectfully request that some of our best pharmacists will give this preparation a trial and report their results to the *Journal*. If any aromatic tincture be desired in combination, it can be added, by first dissolving one avd. ounce of powdered white sugar to each fluidounce of that tincture.

If the quantity of iron be deemed unsuitable to meet the requirements of every-day practice, the difficulty can be overcome by making

the tinct. cinch. sacch. and the syr. ferrous chloride each official separately, to be combined as occasion requires, and in quantities to meet each case.

Tinctura Cinchonæ Saccharata.

Cinchonæ Rubræ, in fine powder, four troyounces.

Alcoholis Fort.,

Syrupi,

aa q. s.

Alcohol. Dil. (Alcohol. p. 3, Aquæ p. 1), one and a half fluidounces.

Moisten the cinchona with the dilute alcohol, and pack in a glass funnel, in the neck of which sufficient tow (free from tar) has been placed to act as a filter; cover the surface with a piece of perforated paper, and pour on alcohol previously mixed with an equal volume of syrup until it has reached the tow and the surface of the powder is covered; cork the neck of the funnel and allow it to macerate forty-eight hours; then remove the cork and continue the percolation with equal parts of alcohol and syrup mixed, until sixteen fluidounces have been obtained.

Or,

Cinchonæ Rubræ, in fine powder, . four troyounces.

Alcohol. Dil., . . q. s.

Sacch. Alb. Pulv., . . eight avd. ounces.

Moisten the cinchona with f $\frac{3}{4}$ iss of dilute alcohol, and pack in percolator (with tow in the neck to act as filter), and pour on dilute alcohol until twelve fluidounces have been obtained; then dissolve the sugar in the tincture by agitation.

This contains fifteen grains red Peruvian bark in each fluidrachm. I prefer the first process for exhausting the bark, for the reason that the alcohol is stronger, being diluted with syrup instead of water.

Syrup of Ferrous Chloride.

Ferri Sulphatis,	.	.	.	grains	437½,
Barii Chloridi,	.	.	.	"	386,
Acidi Sulphur. Dilut.,	.	.	.	minims	10,
Sodæ Sulphis,	.	.	.	grains	5,
Syrupi,	.	.	.	fluidounces	2,
Aquæ Puræ,	.	.	.	"	1,
Acidi Hydrochloric,	.	.	.	fluidrachms	1.

Place the sulphate of iron, sulphite of soda, and dilute sulphuric acid in a chemical flask, with one and a half fluidounces of the syrup, previously heated to near the boiling point, and continue the heat until solution is effected. Place the chloride of barium, remainder of syrup, and the water in another chemical flask, and apply heat until solution is effected. Now pour the two solutions together, mix thoroughly by agitation for a few minutes, and throw the whole upon a paper filter in a glass funnel, arranged in such a manner that it may be kept hot. When the ferrous chloride has filtered through, test a small quantity with a drop of solution of ferrous sulphate; if a white precipitate occurs, a few more grains of sulphate of iron must be added and refiltered; then add the hydrochloric acid and fill into four-ounce vials for further use.

This syrup contains the same amount of *metallic* iron, minim for minim, of the tinct. ferri chloridi, U. S. P.

Tinctura Cinchonæ et Ferri Chloridi Saccharata.

Tincturæ Cinchonæ Sacch.,	.	.	.	Oj.
Syr. Ferrous Chloride,	.	.	minims	160.
Acid Hydrochloric,	.	.	"	160.

This contains 120 grains of red bark and 10 drops of syr. ferrous chloride to each fluidounce. If it be desirable to mix in any other proportion, add one measure of hydrochloric acid for each measure of syr. ferrous chloride. This is a deep red, clear tincture, rather pleasantly bitter; if any doubt exists as to whether it has blackened, add dilute alcohol to a small quantity, until it becomes transparent enough to observe it thoroughly.

New York, July 18, 1871.

GLEANINGS FROM THE GERMAN JOURNALS.

BY JOHN M. MAISCH.

The Oil of Grapeseed has been analyzed by A. Fitz. It consists of the glycerin compound of palmitic, stearic, erucic and another acid or acids, yielding soft semiliquid salts with barium and lead. The two first named acids are present in very small proportion; erucic acid constitutes about one-half of the acid mixture. Grapeseed contain 15 to 18 per cent. of fixed oil, and 5 to 6 per cent. tannin;

the latter in connection with isinglass is an excellent material for the clarification of the finer wines, for which the ordinary tannin cannot be used.—*Ber. d. d. Chem. Gesellsch.* 1871, 442—446.

An Analysis of a Himalaya Tea has been made by Ph. Zöller. The tea had been presented to Prof. Liebig, and consisted of very young leaves. It contained 4.95 per cent. water and 5.63 ashes, of which latter 39.22 per cent. was potassa, 14.55 phosphoric acid, 4.38 oxide of iron, 1.03 oxide of manganium, and only 4.24 lime. The air-dry tea yielded ammonia equivalent to 5.38 per cent. nitrogen, and besides 4.94 theina a small quantity of a crystalline compound of the behavior of *theobromina*. By infusion with boiling water, 36.26 per cent. dry extract was obtained, containing nearly the entire amount of potassa, very little lime, almost two-thirds of the nitrogen, nearly one-half of the phosphoric acid, and one-third of the iron and manganese. The author shows that exhausted tea leaves, which are often used for adulterating tea, can be readily recognized from the amount and the composition of the ashes, and argues that in old tea leaves the relative proportion of the inorganic constituents is altered so that the potassa and phosphoric acid decrease while lime is increased in quantity.—*Ann. d. Chem. und Pharm.* 1871, May, 180—193.

Manufacture of Starch Syrup and Starch Sugar.—Carl Krötke publishes his method for converting starch into glucose, whereby the usual time is shortened to one-half. It consists in adding for every pound of sulphuric acid employed two ounces nitric acid. The usual proportions are 30 cwt. fresh moist starch, 30 lbs. sulphuric and nitric acids. The boiling is continued until tincture of iodine ceases to produce a purple or red, but rather a rum color. If the boiling is discontinued before, the syrup will ferment; if continued for 10 or 15 minutes longer, the sugar will crystallize.

The bleaching of the syrup is effected by bone charcoal, in addition to which sulphurous acid is now also employed. The acid is removed by soda and chalk.

To obtain block sugar (glucose in boxes), 50 per cent. more of the two acids is employed; when the conversion of the starch into sugar has been effected, the boiling is continued for the same length of time. For the quantities given above, 15 lbs. of bone charcoal are added, and the boiling continued for 5 minutes. The mixture is drawn into another vat, and neutralized with chalk. The following additions are

then made: 30 lbs. bone black, 15 lbs. sulphurous acid, and finally 1 lb. crystallized soda. After 6 or 8 hours the clear liquid is drawn off and evaporated *in vacuo* to 36° B., when it is filtered through close muslin. The gypsum remaining on the filter is washed with water and the liquid added to the neutralizing vat.

The filtered syrup crystallizes in 3 to 4 days; the crystallization is hastened by adding some cane sugar after the syrup has cooled down to 25 or 30° R., and stirring occasionally. On the second day it has crystallized sufficiently to be drawn off into boxes, wherein it will become quite hard in a day.—*Pharm. Post*, 1871, No. 11.

Tinctura Rhei Aquosa.—Dr. Th. Rieckher recommends the following process for obtaining a permanent aqueous tincture of rhubarb, the processes of the various pharmacopœias used in Germany, yielding preparations which in a short time separate deposits: 2 parts of cut rhubarb are macerated for 24 hours with a sufficient quantity of water, then introduced into a glass percolator and displaced with water until 48 parts of infusion have been obtained. This is evaporated in a porcelain capsule, by means of a steam-bath, to 13 parts, when 1 part crystallized carbonate of soda and two parts of cinnamon water are added. After several days the tincture is passed through a felt filter, and now has the specific gravity 1.0400.—*N. Jahrb. f. Ph.* 1871, March, 142—146.

Attar of Rose is, according to Grund, of Breslau, often adulterated with alcohol, which raises the congealing point of the attar. The adulteration is detected by agitation with lukewarm water in the usual manner.—*Ibid.*, 165.

Castor Oil.—O. Popp has observed that castor oil turns polarized light to the right, and differs in this respect from all other fats. He also found all the commercial castor oil to contain nitrogen, and finds in these facts supports of his previously expressed opinion, that the purgative properties of this oil are due to a nitrogenated body, probably an alkaloid.—*Archiv d. Pharm.* 1871, March, 233, 234.

Urea a Constituent of Bile.—O. Popp has found urea in beef and hog gall, as a normal constituent. The gall is diluted with water, precipitated by subacetate of lead, the filtrate treated with sulphuretted hydrogen, and evaporated to dryness. The dry mass consists

principally of acetate of soda and urea. It is repeatedly treated with absolute alcohol, and this liquid kept in a high beaker glass for several days, when the urea creeps up on the sides of the vessel, crystallizing in its characteristic forms above the surface of the liquid.—*Ibid.*, 234—236.

OINTMENT CONTAINING MUCH WATER.

BY JOHN H. EHLERS.

The following recipe was recently handed to me to be filled:

R. Pyroligneous Acid,				
Sulphur, each	.	.	.	4 ozs.
Calomel,	.	.	.	60 grs.
Red Precipitate,	.	.	.	40 "
Spts. Turpentine,	.	.	.	1½ oz.
Lard,	.	.	.	4 " M.

I first intimately mixed the calomel and precipitate, then by degrees the sulphur, the turpentine, and finally a small portion of the lard. I now added a little, say two fluidrachms of the acid, but entirely failed to get a mixture. As the acid is largely composed of water, the object was to dispose of the latter so that it might not interfere with the mixture. This was done by adding to the salve in the mortar a little wheat flour, with perfect success, after which lard, flour and acid were added alternately until the ointment was finished, leaving out of it as much lard as flour had been substituted. Four hours afterward, the ointment not having been called for yet, and the weather being very warm, it was found that some of the lard had melted, and was floating on the top, but readily mixed with the ointment again on making use of a spatula, but no part of the acid at any time separated from it.

Auburn, Ind., July 14, 1871.

TINCTURE OF HYOSCYAMUS.

BY M. DONOVAN.

Some years since I published, through the medium of the *Medical Press*, an account of trials made on myself and others, with a view to discover what doses of tincture of hyoscyamus should be given in

order to produce its sedative effects. The experiment was made on several persons, beginning with a drachm dose, increasing it to six drachms, and in my own case to one ounce, of the tincture of the Dublin Pharmacopœia. In no case were any effects observed beyond dryness of the throat and fauces. The experiments were made with tinctures prepared from the dried leaves of garden-grown plants, from wild plants collected in a mountainous district of North Wales, and from the leaves dried and undried.

I was under the impression that some of the plants employed in making the tinctures on which I experimented were in the second year of their growth, but the trials now to be described have convinced me that none of them could have been more than one year old. At that time I was not acquainted with the means which I have since discovered of testing the age of the plant.

I satisfied myself by these experiments that tincture of hyoscyamus prepared, as I believe it generally is in this country, from leaves of one year's growth, is all but powerless. I was strengthened in this opinion by finding that M. Hertz has given upwards of fifteen grains of the extract, most probably made from the plant in its first year, without any sensible effect.

Mr. Houlton had long before affirmed the inertness of the one-year old plant, and the activity of that of two years old.

In order to come to some determination on this subject I adopted means of procuring a tincture certainly made from the latter, and from trials with it soon convinced myself that it was an article of very different value from a tincture of the one-year old plant, and that all my former experiments must have been made with the latter, although I was led to believe that, in some of them, the plant of two years' growth had been used.

My first trial was on myself. I took one drachm, and for an hour or two felt no effect beyond dryness of the mouth. On a subsequent occasion I took two drachms, and in two hours had proof that I had taken a sufficiency. My sensations were indescribable: one was a feeling of uncertainty of my steps in walking, although they were really quite steady, and a slight sensation of giddiness. This trial convinced me that I had taken as full a dose as prudence would permit. To a lady who suffered from headache I gave, at her own request, one drachm of this tincture. In about two hours she felt so overcome by sleepiness that she could scarcely keep her eyes open;

the headache was, however, greatly relieved. On another occasion she took a similar dose, and, being in bed, she soon fell into "a delightful sleep," and, on awaking, found that the headache was almost gone; but she complained of dryness of the fauces and throat, although on the first occasion she did not experience either of these effects. Some months after the same lady suffered from headache, and did not receive any benefit from a similar dose; nor did another person experience any relief from toothache, nor any other effect beyond slight dryness of the fauces, which soon passed off.

Convinced by the foregoing considerations that the medicinal properties of hyoscyamus reside exclusively in the plant of two years old, and that the plant of one year's growth is therefore useless, I sought to discover an easy test by which the age of the plant from which a given tincture had been prepared could be determined. The following has at least the advantage of simplicity: Add a little of the tincture to a glass of water; if the mixture become slightly milky, the tincture was made from a two-year old plant; if it remain transparent, the plant was in its first year.

The British Pharmacopœia gives no information as to what shall be the age of the hyoscyamus from which the tincture is to be made; it is, therefore, a matter of chance whether it will have any effect or be powerless. Given in the dose of twenty or thirty drops, as is sometimes done, it is hard to believe it can have any effect in either case.—*Pharm. Journ.*, May 13, 1871, from *The Medical Press and Circular*.

SOPHISTICATION OF EXTRACT OF MALT.

Messrs. J. M. Hirsh & Co. publish in the July number of the *Pharmacist* a reply to the charge made by Mr. Clacius concerning the sophistication of their extract of malt. Mr. Clacius' paper having been published on page 317 of the last number of this journal, we make the following extract from the rejoinder, and refer to page 331 of the July number in regard to the term *Liebig's Extract of Malt* used in Mr. Hirsh's answer. That the odor of *all impure glycerin* is produced by acroleine is an incorrect statement, as the examination of the cheaper commercial qualities of glycerin will show:

"While we are as German as Mr. Clacius, we shall ever cherish the recollection of Napoleon and his great Industrial Exhibition—

the greatest that any of us recollects, and at which we were honored with that distinction which gives us *a right* to use Napoleon's vignette on our preparations.

"Before having the same on our labels, we sold a great deal of Extract of Malt to customers who indicated their satisfaction by continuing to favor us with their patronage up to date; and we did by no means use it to pretend merits not contained in the preparation itself. We not only desire, but are anxious, to see criticism upon our preparations. But how can we like it, if the critic (as Micawber says) is not a critic, acknowledging in his very critical article, 'that it is difficult to give an exact test for the purity of extract of malt.' From the fact that, heated in an iron spoon, our Extract yielded to Mr. Clacius the odor of impure glycerin, the deduction is made that impure glycerin is used for the preservation of the Extract.

"Mr. Clacius ought to know that the odor of all impure glycerin is produced by acroleine, generated by exposure to a high temperature, and that the very purest glycerin, placed over a spirit lamp, will yield acroleine. He ought to know, furthermore, that acroleine, as also the nitrogen derivatives, produced by the heating of the albumen of the extract of malt, being more volatile, will cover up the odor of caramel to a large extent; and if he, as he condescends to approve of, adds one-eighth part of glycerin to the extract, he will always obtain the odor of acroleine, if the extract of malt is otherwise pure. If, on the other hand, 'a very large yield' of extract is obtained from the malt, which then miraculously contains some cane-sugar, as we found in some extract made by a druggist in this city, then the odor of caramel will predominate. Sugar of any kind being present, in but a small quantity, in good extract of malt, if the conversion is carried on properly, not too far, when the odor of caramel cannot be very intense.

"When we commenced making extract of malt, we made it pure. But during the following hot season we added, after consultation with some prominent druggists of this city, some glycerin, to prevent fermentation, the glycerin being of at least as good a quality as the best in Mr. Clacius' store. At that time we made some extract of malt which did not suit us as a perfect preparation, but upon solicitation of some of our customers.

"We published our objections to this preparation, which, nevertheless, was wanted in that very state, in the November number of *The*

Arts, page 66, where we state that gradually only we are enabled to displace from the market the burnt extract with a more pleasant preparation.

"If we recollect right, Mr. Clacius has not bought of us any extract of malt for over a year or more, and we are therefore surprised at his statements, in contradiction of which we insist upon establishing the following points:

"1. That any person can drink one or two pounds of our Liebig's Extract of Malt with comfort, and without nausea, of which Mr. Clacius complains.

"2. That our Extract of Malt is *extract of malt, made from malt*, in contradiction to the false insinuation of Mr. Clacius.

"3. That our Extract of Malt contains *no glycerin whatsoever*, although we warrant it to keep unfermented throughout the summer. Having found a proper mode of preserving it unfermented without the addition of any foreign substance, we abandoned the use of glycerin in this instance a considerable time ago.

"All these points we insist upon Mr. Clacius to decide by a committee of twelve of the best druggists, or druggists and physicians, of Chicago, *all to be chosen by himself*.

"As soon as these points are established, we shall tell Mr. Clacius 'how an *exact* test of the purity and general quality of an extract of malt can be made,' which, in his article, he acknowledges too difficult for himself, or, in other words, which he acknowledges he cannot do, while at the same time he undertakes to palm off upon your readers his critique, based upon facts which he acknowledges himself unable to establish."

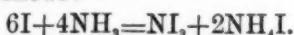
NOTICE ON THE DECOLORIZATION AND DEODORIZATION OF TINCTURE OF IODINE.

By JAMES LAKER MACMILLAN.

Within the last year or two an unusual degree of attention has been devoted to methods for decolorizing tincture of iodine. The agent commonly resorted to for this purpose is ammonia; a practice which cannot be too highly censured, inasmuch as a change takes place which is highly detrimental to its medicinal properties. By the addition of ammonia to this tincture, one or more compounds of iodine and nitrogen are formed, which are thrown down in the state of a

black precipitate, which is redissolved after standing for a number of hours, or by the addition of carbolic acid.

The reaction is as follows:—



Thus, it will be seen that the use of ammonia for this purpose is detrimental to the medicinal efficacy of the iodine; and that when such so-called tinctures prepared by this process are substituted for the tincture proper, the physician unwittingly uses a solution of the above compound. To rectify this error is the object of this notice; to which I append the following simple, though none the less noteworthy processes, for the consideration of the pharmaceutical body at large.

Process No. 1.—Potassium acetate ($\text{KC}_2\text{H}_3\text{O}_2$) 2.59 gram., with 7.7 gram. solution of KHO, having a specific gravity of 1.06, at 15.55°C ., are capable of decolorizing 2.592 decagrams of tincture of iodine, B. P.

Process No. 2.—A similar reaction is manifest if treated with a solution of NaHO, having a specific gravity of 1.07 at 15.55°C ., in the proportions of 5.3 decigrams of the sodium solution to 3.6 gram. of the tincture.

[We believe these preparations (introduced by the late Sir James Simpson) should not be decolorized, since that cannot be done without interference with the medicinal efficacy of the iodine.—ED. PHARM. JOURN.]—*Lond. Pharm. Journ.*, June 10, 1871.

EXTRACT OF MEAT.

The "Extractum Carnis" known as Liebig's, is now extensively employed in medical practice. Now and then doubts are expressed relative to the nutritive value of the commercial extracts, and, occasionally, undesirable effects follow their administration. It is well known that the extract, whether prepared in the open air by the Liebig process, or *in vacuo* by the Borden method, can contain no albumen. The albumen is coagulated, and therefore excluded during the manufacture, so that the extract consists, as shown by E. Reichart's analysis, of

Water separable at 110°C .,16
Mineral constituents,	18.20
Nitrogen,	9.51

The extract is rich in potassium salts.

Dr. Kemmerich has recently published in *Schmidt's Jahrbücher*, a detailed account of the physiological effect. An estimate of the nutritive value of the extract just referred to is given.

He found by experiments on living animals, that extractum carnis in the form of soup, also meat broths and gravies of ordinary concentration, and free from seasoning, produce in the stomach active hyperæmia of its mucous membrane, especially at the gastric follicles. Hence, he concludes that extract of meat increases the activity of the follicles and hastens the secretion of gastric juice.

There is, moreover, a noticeable change in the character of the cardiac pulsation. The throb becomes more frequent, much stronger, arterial tension is increased, the pulse is made full and more rapid. He noticed also that a person by taking a little over one hundred grains of meat extract in the morning, experiences a slight elevation of temperature of the body above that of another person in substantially the same condition, and this elevation is followed by a corresponding depression.

The increase of temperature may be attributed to the increased circulation of the blood and consequently augmented oxidation of the tissues.

The extract of meat affords nutriment, but its improper use may be very injurious.

Dr. Kemmerich's study of the nutritive value was conducted by means of experiments on two dogs of the same birth and weight, subjected to the same vital conditions. To the food of one the mineral salts of meat extract were added, to the food of the other an equal quantity of common salt. The food was for both "animal albumen" separated from the aqueous solution of the muscle of the horse. The dog fed on the meat extract and albumen soon weighed more than the other. In the course of six weeks the dog fed on salt was hardly able to stand, while the other was bright and energetic.

The conditions were then reversed, with very remarkable results. In a fortnight the reduced dog was fully restored, and in four weeks excelled the other in bodily vigor.

Dr. K. concludes that the extract of meat is a true restorative stimulant, like alcohol in the stimulant dose, with the further advantage of affording elaborated material for the formation of tissues.—*Bowdoin Scientific Review, Brunswick, Me., May 9, 1871.*

ON SPECTRUM ANALYSIS OF BLOOD-STAINS.

By H. C. SORBY, F.R.S., &c.

The *Lancet* of last Saturday (May 20th, 1871, p. 693) contains an article on the above-named subject, the whole bearing of which is to the effect that this method cannot be relied upon in such inquiries. Now, I think myself entitled to express a very decided opinion on the subject. I have for some years devoted the greater part of my time to investigations by means of the spectrum-microscope, have examined many hundred different spectra, and seen those of the coloring matter of blood and of the various compounds derived from it, times without number, and all that I can say is that, as my experience has increased, so much more has increased my confidence in the recognition of blood by this method. Of course, an inexperienced observer could not be trusted, no more than any one ignorant of chemistry could be relied on in detecting poisons. I must be pardoned for saying that I can only explain the remarks in the *Lancet* by supposing that the writer is not conversant with the subject; for how otherwise could he say that "no discovery has yet been made by means of these (absorption) spectra," when so much light has been thrown on the behaviour of blood in presence of oxygen and other gases; and when there have been discovered in some of the lower animals, other substances than hæmoglobin, having similar properties, and supplying its place, besides some hundreds of different coloring matters in animals and plants, which could not have been studied in any other manner. Moreover, it appears to me that, if the writer ever saw the spectra of blood, it must have been under most unfavorable circumstances; he must have examined a bad preparation, with an unsuitable instrument, perhaps out of focus. I cannot otherwise understand how he could say that "all that is to be observed is a little *dimness* here and there in the spectrum. The dim spaces, which are not sharply bounded, have been dignified with the name of absorption bands." Now, I would undertake to show the writer in a few minutes, that the absorption bands seen in the spectra of oxidized hæmoglobin and deoxidized hæmatin, instead of being a mere *dimness*, are as black and distinct as could be desired. He would see that they are as well defined as if we had a piece of a rainbow on paper, and marked bands on it with the blackest ink. I willingly admit that, in the case of some substances, absorption bands are indeed faint, or

quite absent ; but that fact, amongst many others, only serves to distinguish them still more certainly from blood.

My general conclusion is that it is the fault of the experimenter himself, if, except in a few special cases, he fails to recognize a blood-stain containing only the hundredth of a grain of blood, and if he do not easily recognize one that has been kept dry, even for a period of fifty years. For a description of the method to be employed in various cases, I refer to my paper on this subject in *Guy's Hospital Reports*, 3d series, vol. xv., 1870, p. 274, and to Dr. Letheby's paper in the third volume of the *London Hospital Reports*. Of course, I do not pretend to say that human blood can be thus distinguished from that of other animals, but I unhesitatingly say that we can distinguish blood from all other animal and vegetable coloring matters.—*The Medical Press*, May 31, 1871.

NOTES ON BIRD OILS.

By P. L. SIMMONDS.

Among the animal oils or fats, that of birds has been the least investigated, probably because it is so seldom met with in commerce, and yet there are some quarters where various kinds have economic and medicinal uses. Goose grease is perhaps the only one which with us has a domestic reputation as an emollient for chapped hands, etc. As Mr. Stanford has recently drawn attention to the fulmar oil in the *Journal*, a few notes as to the uses and commerce in other oils or fats from birds may probably lead to further investigations and a careful examination of any useful properties they may possess.

The Penguin (*Diomedea chilensis*) in the Falkand Islands is chiefly sought after for its oil, deriving its name from its pinguidity or excessive fatness. On the islands of the Falkland group these birds are found in millions, and schooners, with a gang of twelve or fifteen men, go there solely for boiling down the oil of the birds. The fat of eleven birds skimmed gives about one gallon of oil, and each schooner or gang of men will return to Stanley, after a month or six weeks' campaign, with from 25,000 to 30,000 gallons of oil. This oil, which comes chiefly to London, is used, I believe, for currying leather only. I have sent Mr. Stanford and the museum of the Society specimens of this oil. It varies in color according to the time it has been boiled.

Another bird oil largely sought for in the islands of Bass's Straits and New Zealand, is from what is called locally the mutton bird (*Procellaria obscura*). Large quantities of oil are obtained from the young birds. The body is pressed and the oil runs from the mouth, each bird yielding about half a gill. The oil is reputed to possess considerable virtue as a liniment in cases of rheumatism. The fat, when clean, is pure white and looks like goose fat, but the taste is rather oily; however, it may be used for a good many purposes other than for food. It burns very well in small, shallow tin lamps, which get warmed by the light and melt the fat.

Father Labat (Nouv. Voy. tome vi. p. 395) speaks of the virtues of the grease or fat of the frigate bird. It is said to be an admirable specific in the sciatica, and in numbness of the limbs and other ailments arising from a want of circulation. The grease is to be heated, and while it is on the fire, the parts affected are to be well rubbed and chafed in order to open the pores, and some good brandy or spirits of wine are to be mixed with the fat immediately before it is applied. A piece of blotting paper steeped in this mixture may be laid on the part, with compresses and a bandage to keep it in its place.

Mother Carey's chickens (*Procellaria pelagica*) are killed in quantities at the Western Islands for their oil. They are so plump that the islanders merely draw a candle-wick through the body, and it becomes so saturated with the liquid fat as to form a lamp without further process.

Ostrich fat has much local repute. The first care of the sportsman after securing his bird, is to remove the skin, so as to preserve the feathers uninjured; the next is to melt down the fat and pour it into bags formed out of the skin of the thigh and leg, strongly tied at the lower end. The grease of an ostrich in good condition fills both its legs, and as it brings three times the price of common butter, it is considered no despicable part of the game. It is not only eaten with bread and used in the preparation of kooskoos and other articles of food, but the Arabs reckon it a valuable remedy in various maladies. In rheumatic attacks, for instance, they rub it on the part affected till it penetrates thoroughly; then lay the patient in the burning sand, with his head carefully protected. A profuse perspiration comes on, and the cure is complete. In bilious disorders, the grease is slightly warmed, mixed with salt and administered as a potion. It acts thus as a powerful aperient, and causes great emaciation for the

time; but, according to the Arabs, the patient, having thus been relieved from all the bad humors in his body, afterwards acquires robust health and his sight becomes singularly good.

The grease of the emu, or Australian ostrich (*Dromaius Novæ-Hollandiæ*) is held in great esteem by both colonists and natives as a cure of bruises and rheumatism. The skin of the bird produces six or seven quarts of a clear, beautiful, bright yellow inodorous oil. The method of obtaining the oil is to pluck the feathers, cut the skin into pieces and boil it.

At one of the Madras Industrial Exhibitions, oil from peacocks' fat in Tinnevely was shown, but it was not stated to what use it was applied.

In South America, in the immense cavern of Gaucharo, in the government of Cumana, Humboldt describes an extensive pursuit carried on of a bird for its fat by the Indians. This cave is peopled by millions of nocturnal birds (*Steatornis caripensis*) a new species of the *Caprimulgis* of Linnæus. About midsummer the young birds are slaughtered by thousands. The peritonæum is found loaded with fat, and a layer of the same substance reaches from the abdomen to the vent, forming a kind of cushion between the hind legs. Humboldt remarks that this quantity of fat in frugivorous animals not exposed to the light, and exerting but little muscular motion, brings to mind what has been long observed in the fattening of geese and oxen. It is well known, he adds, how favorable darkness and repose are to this process. The fat of the young birds is melted in clay pots over a brushwood fire. It is half liquid, transparent, inodorous, and so pure that it will keep above a year without turning rancid.*

The passenger pigeons (*Columba migratoria*) of North America are another source of oil. They migrate at certain seasons in millions, and the Indians, watching their roosting-places in the forests, knock them on the head in the night and bring them away by thousands. The Indians preserve the oil or fat, which they use instead of butter. There was formerly scarcely any little Indian village in the interior where a hundred gallons of this oil might not at any time be purchased. The squabs, or young pigeons, when taken in quantity, are also melted down by the settlers as a substitute for butter or lard.—*The Pharm. Jour. and Trans.* June 17, 1871.

* Bonnycastle's 'South America.'

A NEW SPECIES OF ERYTHRONIUM.

BY PROFESSOR ASA GRAY.

Ordinarily it is hardly worth while to make a separate article for a single new species of plant, even when discovered in a district in which a new flowering plant is unexpected. But the species of *Erythronium* are so few, and the present one is so peculiar, and its habitat so closely bordering the region included in my Manual of the Botany of the Northern United States, that I need not apologize for bringing it at once to notice.

The specimens before me, accompanied by a colored drawing, are just received from Miss S. P. Darlington (a daughter of the late Dr. Darlington, long the Nestor of American botanists and one of the best of men), and were collected at Faribault, Minnesota, by Mrs. Mary B. Hedges, the teacher of Botany in St. Mary's Hall, a school of which Miss Darlington is Principal.

The flower is much smaller than that of any other known species, being barely half an inch long; and its color, a bright pink or rose, like that of the European *E. Dens-Canis*, reflects the meaning of the generic name (viz. red), which is lost to us in our two familiar Adder-tongues, one with yellow, the other with white, blossoms. The most singular peculiarity of the new species is found in the way in which the bulb propagates. In *E. Dens-Canis* new bulbs are produced directly from the side of the old one, on which they are sessile, so that the plant as it multiplies forms close clumps. In our *E. Americanum* long and slender offshoots, or subterranean runners, proceed from the base of the parent bulb and develop the new bulb at their distant apex. Our Western *E. albidum* does not differ in this respect. In the new species an offshoot springs from the ascending slender stem, or subterranean sheathed portion of the scape (which is commonly five or six inches long), remote from the parent bulb, usually about mid-way between it and the bases or apparent insertion of the pair of leaves; this lateral offshoot grows downward, sometimes lengthening as in the foregoing species, sometimes remaining short, and its apex dilates into the new bulb.

This peculiarity was noticed by Mrs. Hedges, the discoverer of this interesting plant, to whom great credit is due. Most lady botanists are content with what appears above the surface; but she went to the root of the matter at once. I learn that *E. albidum* abounds in the

same locality. *E. Americanum* is also found in the region, but is scarce.

It is not easy to find or frame a specific name which will clearly express the most remarkable characteristic of this new species. But I will venture to name it

ERYTHRONIUM PROPULLANS.—*E. scapo infra folia pullulante; foliis oblongo-lanceolatis acuminatis parum maculatis; perianthio roseo-purpureo (semipollicari), segmentis acutis basi luteo tinctis omnino planis (nec calloso-dentatis nec sulcatis); antheris oblongis; stylo fere equabili integerrimo; stigmatе parvo vix tridentato; ovulis in loculis 4—6.*

Scape bulbiferous from its sheathed portion below the developed leaves; these oblong-lanceolate, acuminate, slightly mottled; perianth rose-purple or pink (half an inch long); the segments acute, all with a yellow spot but plane at the base, the inner like the outer destitute of either groove or tooth-like appendages, but a little more narrowed at base; anthers merely oblong; style hardly at all narrowed downward, entire, the small stigma even barely three-lobed; ovules few (4—6) in each cell.—*Amer. Naturalist, July, 1871.*

ON A RARE FORM OF POISONING BY QUININE.

BY A. BRATTON BALL, M. D.

The more common symptoms of quinine, such as headache, tinnitus aurium, vomiting, prostration, etc., are familiar to every physician, but the occurrence of an erythematous rash, accompanied by œdema, and extending over the whole body, followed by desquamation, is so rarely a toxic effect of quinine that I have not found any mention of it by such systematic writers on materia medica as Headland, Wood, Stillé, Beck, Biddle, Waring, Royle, Trousseau and Pidoux.

Briquet, in his monograph on quinine,* quotes Chevallier as having observed that workers in quinine were liable to various cutaneous eruptions; but this effect is ascribed by Briquet to local irritation by the drug. In his numerous experiments, the author noticed no special effect upon the skin, except a very constant diminution in its temperature. Rilliet and Barthez record a case of desquamation, and Bouchut a roseola following the use of medicinal doses of quinine.

* *Traite Thérapeutique du Quinquina et de ses Préparations.* Paris, 1853.

The case which is the subject of this article occurred about a year since, in the practice of a physician of this city, who has kindly given me the notes from which the account is compiled. I am convinced that this form of quinism occurs more frequently than might be supposed from the fact of its having been overlooked by systematic writers on materia medica. My object in publishing this case is to elicit similar reports from others, and thus to secure the recognition of such accidents by our text books on this subject.

On April 15th, 1870, Mr. A., a merchant of this city, who had previously enjoyed good health, was taken ill with febrile symptoms which lasted five days, and were thought by his physician to be of a malarial nature. In accordance with this view, quinine was prescribed in the form of two-grain sugar-coated pills, of which the patient took three on April 22d, two days after perfect recovery from the previous attack. On retiring at night, Mr. A. noticed that his hands were beginning to swell, and soon experienced severe burning and itching, which deprived him of rest. Towards morning, the feet became similarly effected. When seen on the 23d inst., the hands and feet were swollen and erythematous, the eruption being most conspicuous on the palms and soles, extending to the wrists and ankles, marked by a sharply-defined border, and resembling the eruption of scarlatina. There was no febrile disturbance, and the patient expressed himself as feeling very well, with the exception of the annoyance from the burning and itching. During the following day, the rash extended over the whole body, and on the fourth day the cuticle of the hands and feet began to desquamate. Desquamation shortly ensued upon the trunk and limbs. The cause of these singular symptoms being entirely unsuspected, the quinine was ordered to be resumed on April 30th, and the same night, after having taken three pills (six grains), the patient experienced toxic effects of still greater severity, viz., high fever; pains in the limbs; tongue heavily coated, clearing in a few hours to a dark red color; burning and pricking of hands and feet, with a return of the swelling and rash, which eruption extended over the trunk and limbs, and was followed by a second desquamation. From this second attack he failed to convalesce quickly, and went into the country, remaining there about a fortnight, during which time, although (so far as can be ascertained) he took no more quinine, he occasionally suffered from burning and itching in his hands and feet, and on one or two occasions there was a slight return of the rash.

On Monday, May 23d, having returned from the country in good general health, he took two more pills (grains 10) on his own responsibility, one at noon, and the other shortly before dinner. While eating his dinner he experienced a peculiar tingling sensation in his tongue, which, in a few minutes, became so swollen as to interfere with articulation and deglutition. This symptom was soon followed by a rapid pulse, heat of skin, mental excitement, and incessant muscular tremors. The hands swelled, assumed the classical boiled-lobster hue; in short, he was again ill for four or five days, and desquamation ensued for the third time. The quantities of quinine stated as taken are accurately given, and a subsequent examination of the pills remaining in the box showed that they contained only the sulphate of quinine with a little cinchonine and the usual sugar coating. As if to leave no doubt as to the relation between the symptoms and the cause assigned, it has been ascertained that Mr. A. had a similar attack about six years ago, which was regarded by his physician as scarlet fever, and that the attack came on after he had taken a few doses of the tincture of bark, which had been prescribed for him as a tonic.

I have been able to find but three cases recorded in full, which resemble that of Mr. A. They all appeared in the *British Medical Journal* of 1869 and 1870.—*N. Y. Med. Gaz.*, vii, 88, 89.

LABORATORY NOTES.

By E. B. SHUTTLEWORTH.

Utilization of Residue in making Tincture of Myrrh.—In preparing this tincture by the directions of the British *Pharmacopœia*, a residue of about two-thirds of the original amount of myrrh remains. This consists almost entirely of gum or arabin, as the spirit of 84 per cent., used for percolation, exhausts the myrrh of resin and essential oil, leaving the gum, with the ordinary mechanical impurities, as sand, bits of wood, bark, &c. It occurred to the writer that this might be utilized as mucilage; and to put the idea into execution, the residue of the percolation of 52 pounds—the quantity required for 50 wine gallons of the tincture—was dissolved in boiling water, strained, and allowed to deposit. Twelve gallons of very tolerable mucilage was obtained, and which, although unfit for sale, or the nicer purposes of trade, was found an excellent substitute for ordinary paste, possessing unlimited keeping qualities, but scarcely as adhesive as mucilage from

gum arabic. The latter property may, however, be given by the addition of a small quantity of molasses; and thus prepared, the mucilage will be found quite acceptable, and, certainly, cheap enough.

While speaking of tincture of myrrh, it may not be out of place to allude to a plan for its preparation which was proposed by an American pharmacist, and which has, to some extent, come into use. It consists in forming an emulsion of the drug with hot water, and mixing this with alcohol. The resulting tincture is deep-colored and quite thick, conveying the vulgar idea of *strength*. Strong it is, but not in aroma, or fragrant resin. The practice cannot be discountenanced too strongly, as not only is the preparation quite different from what the *Pharmacopœia* requires, but the product is a sticky abomination.

Adulteration of Lard.—Some time ago, the stock of prepared lard being exhausted, a quantity was procured from a respectable pork-dealer. It was beautifully white; so much so, that the writer was led to question his ability to produce anything equal to it. The first trial was in preparing ointment of nitrate of mercury. The color, when the mercurial solution was added, was the reverse of citrine, indeed, decidedly santurine, developing in a short time to a full slate color. Surprised at this unprecedented result, the usual precautions having been taken as to temperature, etc., the lard was suspected, and, on examination, was found to contain a large proportion of lime. Some time after, being in conversation with a lard-renderer, a hint was dropped as to the relation of lime to color, when the information was confidentially imparted that a common practice among lard-dealers was to mix from two to five per cent. of milk of lime with the melted lard. A saponaceous compound is formed, which is not only pearly white, but will allow of the stirring in, during cooling, of 25 per cent. of water. So much for appearances.

Extract of Vanilla.—The pods are commonly recommended to be rubbed up with sugar. A plan we have adopted gives more satisfactory results. The pods are first cut into short lengths with a pair of shears, and are then ground, or pounded, with the addition of a liberal amount of clean, broken glass (old bottles). The powder may be made of almost any degree of fineness, and the ground glass assists materially in the percolation. Fifty pounds of vanilla may be completely exhausted by twenty gallons of spirit.—*Canadian Pharmaceutical Journal*, April, 1871.

THE MEDICINAL PROPERTIES OF THE COCOA-NUT.

By JOHN R. JACKSON, A.L.S.,

Curator of the Museums, Royal Gardens, Kew.

The cocoa-nut (*Cocos nucifera*, L.) is a well-known economic plant, and is extensively cultivated in tropical countries. It is estimated that in Travancore alone there are ten millions of these trees growing. The fruits are a most important article of food in the countries where they grow, while the oil and the fibre of the husk—known as coir—are valuable articles in British commerce.

The cocoa-nut is not a recognized medicinal plant in European practice, though the oleine obtained by pressure from the crude oil and refined, has been used as a substitute for cod-liver oil, experiments having shown that its effect in increasing the weight of the body is almost equal to that of the latter, but that its continued use is apt to disturb the digestive organs and produce diarrhoea. The crude oil, as brought into England, is obtained by boiling and pressing the white kernel or albumen. While in a fresh state, and in a liquid form, this oil is of a pale yellow color, and almost without smell; it is much used in cookery by the natives, but becomes partially solid and turns rancid before it arrives in this country, where, for the purposes of the candle-maker, the stearine or solid fat is separated from the fluid. Cocoa-nut oil is said to be useful in strengthening the growth of the hair.

The milk of the coaco-nut is more important to the natives in a medicinal point of view than the oil; in India they use it as a purifier of the blood, and we have heard from many an English resident in our eastern possessions, that it is not only an excellent medicine for the purpose, but that nothing can possibly be more refreshing to a thirsty traveler under a tropical sun than a good draught of fresh cocòa-nut milk. As we obtain it in this country, it has not only lost its freshness and fine flavor, but has also lost its medicinal properties. When quite fresh it has been employed successfully by English doctors in India in cases of debility and incipient phthisis, and it also forms an excellent substitute for, if indeed it is not preferable to, cow's milk for tea and coffee. In large doses, however, it is said to act as a purgative, and on this account has been recommended in lieu of castor oil for those who cannot overcome the nausea arising from the latter. In the Fiji islands the milk is very extensively used, but it has been supposed, with how much truth we are not able to say, that

the continued use of it predisposes to the dropsical complaints which are said to prevail in those islands.

The toddy or wine which is obtained from the flower-spikes is described as being very refreshing and delicious, taken before sunrise; it is given by the native doctors in cases of consumption, and if taken regularly is said to be an excellent medicine for delicate persons suffering from habitual constipation.—*Pharm Journ. and Trans.*, July 8th, 1871.

Varieties.

Silver Islet.—Mr. Joseph Wharton remarked that a letter, received this day from Thomas Macfarlane, the discoverer of Silver Islet, in Lake Superior, near the north shore, states that, up to March 2, ores to the value of \$250,000 had been taken out, and it is confidently believed that this will be increased before the opening of navigation to \$500,000. A coffer-dam has been built around the islet, at a cost of \$60,000, to increase the area for working. The ore has thus far been sent to the factory of E. Ballach & Son, Newark, N. J., but works are now about to be built at Wyandotte, near Detroit, for the treatment of it. Although the islet is in Canada, and the discoverer is a Canadian, it was not found possible to interest Canadians in the venture of opening the vein, and this extremely promising deposit is therefore the property of citizens of the United States. The ore is worth about \$1500 per ton.—*Pro. Acad. Nat. Sci.* 1871.

Fraudulent American Degrees.—At an inquest recently held in Dublin, one Mr. W. L. Erson, the medical attendant of the deceased, is reported in the *British Medical Journal* to have testified: "I am a physician of the College of New York, but I never was in that city. I have my diploma." It may perhaps be well to inform our English contemporaries that the only regular schools of medicine in this city are those of the University of the City of New York, the College of Physicians and Surgeons, Bellevue Hospital, and the Woman's Medical College of the New York Infirmary; neither of which, we firmly believe, confers degrees without proper precaution. In view of the apparent flooding of the British market with fictitious diplomas purporting to emanate from non-existent colleges in America, our respectable schools, for their own sakes, should combine to detect and expose the sharpers whose nefarious trade is bringing our whole educational system into evil odor abroad.—*N. Y. Medical Gazette*, July 8th, 1871.

Muriate of Quinia in solution of 25 ctgrm. in 30 grm. distilled water (gr. iv to ʒi) is recommended by Italian physicians as an excellent collyrium in chronic catarrh of the conjunctiva &c.—*Pharm. Zeitung*.

Female Dispensers.—The Pharmaceut. Zeitung states, that deaconesses have, since July 2d, 1853, the right to superintend *dispensaries* after having passed an examination before a board consisting of a district physician and an apothecary. The item under the caption "Female Apothecary," on page 325 of the July number should be corrected accordingly.

Vaccine matter is preserved in Germany by intimately mixing the fresh matter with 2 parts of pure glycerin and 2 parts distilled water; the mixture is well agitated before it is used.—*Ibid.*

Benzoic Acid from Urine.—C. J. Kaufmann, in Königsberg, Prussia, manufactures annually about 70 cwt. benzoic acid from about 35,000 cwt. urine of horses and cattle, and consumes about 1000 cwt. of sulphuric acid. The benzoic acid is mostly employed for the production of a red anilin dye.—*Zeitschr. d. österr. Apoth. Ver.*, 1871, N. 17.

Pill masses of Ferri Sulph. and Potas. Carb. are made, according to the Hamburg pharmacopœia of 1852, with honey; and by the Belgian pharmacopœia, with tragacanth; while some pharmacists use a small quantity of carbonate of magnesia and then mucilage of gum arabic.—*Pharm. Cent. Halle.* 1871, 198, (see also p. 307 of this volume of *Amer. Journ. Pharm.*)

Shoe Blacking without Acid.—3 to 4 lbs. lamp black and $\frac{1}{2}$ lb. bone black are well mixed with 5 lbs. each of glycerin and syrup. Meanwhile 2½ oz. of gutta percha are cautiously fused in a copper or iron kettle, and 10 oz. olive oil added with continual stirring, afterwards 1 oz. stearin. The warm mass is added to the former mixture, and then a solution of 5 oz. gum senegal in 1½ lbs. water, 1 drachm each of oil of rosemary and lavender may be added. For use, the blacking is diluted with 3 to 4 parts of water.—*Artus in Vierteljschr. Chem. Centr: Bl.* 1871, N. 21.

Manufacture of Sugar in the German Zollverein.—During the year 1869—70, 297 sugar factories used 51,691,737 cwt. of beets in the manufacture of sugar.—*Ibid.*, N. 24.

Chloralhydrate and Cod-liver Oil.—10 grm. crystallized pure chloral hydrate dissolved by digestion in a sand bath, in 190 grm. cod-liver oil, renders the latter more palatable; used by consumptives, the preparation diminishes the night sweats, produces sound sleep and improves the appetite. The dose is six table-spoonfuls daily.—*Pharm. Zeit. from Gaz. farm. ital.*

Chinese Cement.—Among the crude materials sent by Dr. V. Scherzer from Pekin was the cement known as schio-liao, which is used in the north of China as paint for wood of all kinds, and by which these substances may be made perfectly water-proof. Dr. Scherzer saw in Pekin a wooden box which had traveled the tedious road via Siberia to St. Petersburg and back, which was found to be perfectly sound and water-proof. Even baskets made of straw

became, by the use of this cement, perfectly serviceable in the transportation of oil. Pasteboard treated therewith receives the appearance and strength of wood. Most of the wooden public buildings of China are painted with schio-liao, which gives them an unpleasant reddish appearance, but adds to their durability. This cement was tried in the Austrian department of Agriculture, and by the "Vienna Association of Industry," and in both cases the statements of Dr. Scherzer were found to be strictly accurate. It is prepared in the following manner: To three parts of fresh-beaten blood are added four parts of slaked lime, and a little alum; a thin, pasty mass is produced, which can be used immediately. Objects which are to be made specially water-proof are painted by the Chinese twice, or at the most three times. This cement is not used for such purposes in this country; but it certainly deserves attention, as it is the cheapest really effectual means of rendering wood and other materials perfectly water-proof.—*Technologist*, June, 1871.

Closing of Pharmacies in Italy.—At the inspection of pharmacies in the province of Naples, several establishments were closed by the authorities in consequence of not having on hand all the medicines required by law, and on account of keeping adulterated articles.—*Pharm. Zeitung*, N. 45.

Iodoform Ointment.—In the Boston City Hospital, iodoform ointment in connection with iodide of potassium is extensively and successfully used in the treatment of syphilitic ulcers and rupia. Dr. William Ingalls, attending surgeon, advocates this formula in two obstinate cases under his care:

R. Iodoformi ʒss.

Spts. vini. rect. q.s.

Adipis suill. ʒvijss.

M.

—*Chicago Med. Exam.*, from *Boston Med. and Surg. Journal*.

The Effect of Climate and Soil on Plants.—As an example of the effect of a tropical climate and soil on British cultivated plants and their products, may be mentioned the fact of the introduction of some peppermint plants from the Mitcham fields into a plantation at Singapore. After being planted in their new tropical home in a situation fully exposed to the sun they grew very well, but not to the height they grow in this country; moreover, they refused to flower, and almost as soon as they had arrived at full growth they dried up, having an appearance of being burnt. They were also found to yield not more than half the usual quantity of essential oil, and that of a dark claret color and of an inferior odor.—*Pharm. Journ. and Trans.*, July 1, 1871, from *Gardeners' Chronicle*.

Posture of the Head in Sleeping.—It is often a question among people who are unacquainted with anatomy and physiology, whether lying with head exalted or on a level with the body is the more unwholesome. Most, consulting their own case on this point, argue in favor of that which they prefer. Now, although many delight in bolstering up their heads at night and sleep soundly without injury, yet we declare it to be a dangerous habit. The vessels in which

the blood passes from the heart to the head are always lessened in their cavities when the head is resting in bed higher than the body; therefore, in all diseases attended with fever the head should be pretty nearly on a level with the body; and people ought to accustom themselves to sleep thus and avoid danger.—*Home and Health*, I, 150.

AMERICAN PHARMACEUTICAL ASSOCIATION. NOTICE.

The Nineteenth Annual Meeting of the American Pharmaceutical Association will be held in the city of St. Louis, Missouri, on the second Tuesday (12th) of September, 1871, commencing at 3 o'clock P.M.

With the view of increasing the interest and importance of this meeting the Committee of Local Arrangements will endeavor to make the display of products in any way connected with the drug business as extensive as possible.

Specimens of crude drugs, especially such as are indigenous to the West and South, will serve to illustrate the materia medica of the great Valley of the Mississippi, and are particularly desirable articles for exhibition; they should be delivered, free of expense, to Wm. H. Crawford, Local Secretary, St. Louis, accompanied by an invoice and description.

It is earnestly hoped that all who are eligible and who are not already members will become such, and thus more nearly equalize the representative number of members among all the States, which would greatly increase the usefulness of the Association, and render it more national in character.

R. H. STABLER, M. D., *President*.

Alexandria, Va., June 13, 1871.

Pharmaceutical Colleges and Associations.

PHILADELPHIA COLLEGE OF PHARMACY.—The board of Trustees have empowered the delegates to the next annual meeting of the American Pharmaceutical Association to act as or appoint representatives of this College at the convention of Colleges, meeting simultaneously with the Association.

THE MAINE PHARMACEUTICAL ASSOCIATION held its annual meeting in the city of Portland on the afternoon and evening of July 18th, Dr. H. T. Cummings in the chair, and C. Way acting Secretary. After the election of members, the following officers were elected for the ensuing year: H. T. Cummings of Portland, President; John G. Cook of Lewiston, Vice-President; Christopher Way of Portland, Recording and Corresponding Secretary; A. G. Schlotterbeck of Portland, Treasurer; H. T. Cummings and Geo. C. Frye of Portland, and S. Anderson of Bath, Executive Committee.

The Secretary offered the following motion, which was passed: In consequence of the suspension of the operations of the Association for the past two years, it is proposed to remit the dues for the last two years, and to collect

them for the current year. Those who have not paid their dues for the first year will be called upon to pay them in addition to the current year.

A general discussion followed in regard to the establishment of a college of pharmacy in this State, in which Messrs. Schlotterbeck, Cook, Hawes and others participated. Mr. Cook offered the following:

Voted.—That a Committee of three be appointed to confer with the Professors of the Massachusetts College of Pharmacy and ascertain the cost of a course of lectures, to be delivered before the Maine Pharmaceutical Association the coming winter, on Chemistry, Materia Medica and Pharmacy; also to confer with the committee of the Maine Medical Association appointed at their last meeting, to co-operate with this Association, and with any other medical men who will be likely to render us assistance in our enterprise, and report at a meeting to be called at the request of the President.

The vote was adopted, and Messrs. Schlotterbeck and Hawes were appointed, with power to select a third member.

At the evening session the discussion on the subject of a school for Pharmaceutical Instruction was resumed and continued with much spirit up to a pretty late hour. It was finally referred to the committee appointed in the afternoon session, who are to collect all the facts, harmonizing them as far as possible, with a view to the success of the plan, and report at an adjourned meeting.

The Association adjourned to meet on Tuesday, the 19th of September ensuing.

MASSACHUSETTS COLLEGE OF PHARMACY.—The following gentlemen were elected delegates to represent this College at the next annual meeting of the American Pharmaceutical Association at St. Louis: Mich. H. Gleeson, Charles I. Eaton, Geo. F. H. Markoe, Joel S. Orne, Chas. H. Price.

The Alumni Association of the same College elected the following delegates to the same meeting: Geo. H. Beal, Thos. Doliber, J. Howes Dyer, Geo. E. Raymore, Chas. A. Tufts.

Both delegations have been empowered to fill vacancies.

THE NEW JERSEY PHARMACEUTICAL ASSOCIATION will hold a meeting at Long Branch, August 17th.

MARYLAND COLLEGE OF PHARMACY.—Among the passengers of the steamship Baltimore, which sailed for Europe on July 19th, was Dr. George W. Andrews, one of the founders of this College, which was granted a charter of incorporation in 1841. He has continued an active member of the college to the present time, and for more than twenty years has been honored with Presidential office, his last term expiring on the 13th of July, when he declined to accept the position any longer, on account of ill-health. It having been announced that he purposed visiting England in quest of health, a committee was appointed by the college to draft suitable resolutions, expressive of the high appreciation in which he was held by his fellow-members. At the special session held on the 17th instant, the complimentary resolutions, as reported by the committee, were unanimously adopted, and eulogistic remarks made by the members present, after which a resolution was passed to charter a steamer and to accompany Dr. Andrews as far as Swan Point. On the evening of the 18th, the

Committee on Resolutions repaired to the residence of Dr. Andrews, and the President elect, Dr. J. Brown Baxley, presented, in the name of the college, the engrossed copy of resolutions, which were briefly responded to by the retiring President. The next day, quite a number of the members of the college and other friends of Dr. Andrews met on board the steamer and proceeded with him as far as Swan Point, when, after many kind wishes and an affectionate adieu, they returned to Baltimore.

THE LOUISVILLE COLLEGE OF PHARMACY, at its meeting held July 17th, adopted the following:

WHEREAS, It has pleased an all-wise Providence to remove from our midst, by death, our brother, John David Owen, who had endeared himself to us by his deeds of kindness and Christian charity; therefore be it

Resolved, That in the death of John David Owen, the College of Pharmacy has lost one of its most promising members, and the church one of its most active and zealous advocates.

Resolved, That we extend to his bereaved family, and especially his aged mother, our heartfelt sympathy and condolence in their deep affliction.

Resolved, That we wear the usual badge of mourning for thirty days.

Resolved, That a copy of these resolutions be presented to the members of his family; that the same be published in the daily papers and spread on the records of this association.

THE BRITISH PHARMACEUTICAL CONFERENCE will hold its annual meeting at Edinburgh, on the first of August.

PHARMACY IN HOLLAND.—The Pharmaceutical Society of the Netherlands held its 23d annual meeting on the 27th of June. The introduction into the Pharmacopœia of the brown Java cinchona bark, and the legalization of the use of measures of capacity were amongst the subjects considered.

THE PHARMACEUTICAL SOCIETY OF BELGIUM has memorialized the Commission appointed to suggest plans for the reformation of academical instruction, and proposes, among others, the following measures: Uniform literary attainments for students of medicine and pharmacy, and attendance upon a philosophical course; enlargement of the pharmaceutical branches by the addition of a course on hygiene, by fuller instruction in quantitative analysis, and by a special course on toxicology; renewal of the doctorate in pharmacy, &c.

THE PHARMACEUTICAL SCHOOL AT STRASSBURG has not been reopened yet, but the lectures are continued there gratuitously, with the approval of the authorities, by the voluntary labor of several apothecaries of Strassburg.

THE NORTH GERMAN APOTHECARIES' SOCIETY will hold its annual meeting at Dresden, Saxony, from Sept. 14th to 16th.

The two German apothecaries' societies of Northern and Southern Germany are arranging the preliminaries for the purpose of effecting a union and forming one national association.

THE PHARMACEUTICAL INSTITUTE OF DORPAT, RUSSIA, has been removed into

the old university building, and now has a lecture room for seating 40 students and containing the cabinets in 11 glass cases; also a laboratory for the heavier operations, with furnace, drying closet, sandbaths, waterbaths, two stills, &c.; and a laboratory with 36 tables for qualitative analysis, six tables for volumetric examinations, a closet for operations with sulphuretted hydrogen, two waterbaths and a drying closet. Adjoining the laboratory is the balance room, the chemical cabinet, and the laboratory of the pharmaceutical director and assistant, with three additional tables for scientific investigations.

Editorial Department.

THE NEXT MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, AT ST. LOUIS.—From the information thus far received, the probabilities are that this meeting will be very largely attended from all parts of the country; the colleges and societies of the Eastern States expect to send full delegations, and many other members have arranged to be present.

The Permanent Secretary has issued his circular, and negotiations are in progress to secure for the members and their families, as well as for the delegates and applicants for membership, a considerable reduction of fare by one and probably two railroads. Applications to share in the benefit of this reduction should be made at once.

The headquarters of the Association during the meeting will be at the Southern Hotel, St. Louis, where ample accommodations and a suitable reduction from the usual charges have been provided.

THE CONDITION OF PHARMACY IN FOREIGN COUNTRIES, and especially their legal regulations relating to the practice of our art, are of particular interest at a time when the agitation in this country for suitable restrictions has assumed so large dimensions. A few years ago there were no laws of the kind enforced in the United States, although somewhat vague provisions looking toward the competency of the apothecary had been placed on the statute books of three States. Now we have laws in three or four States, which are being enforced, and the same subject has been before the Legislatures of seven or eight other States, and is being agitated by several local pharmaceutical societies.

In continental Europe a certain control has been exercised by the governments over the apothecaries and their establishments, until in most of the European States the machineries for this control have gradually become fixed institutions. Nowhere, perhaps, is this control more thorough and searching than in Germany, where it has thus far remained unaffected by the perfect freedom existing for all trades, although voices have been raised for a similar liberty to pharmacy, and against the legal limitation of officines.

To present our readers with a complete and true picture of the pharmaceutical affairs as they have been gradually developed in Germany, we lay before them the lucid essay of Dr. Fred. Hoffmann, which will doubtless invite comparison with the condition of pharmacy in our country, and which we hope will

stimulate those among our readers who are familiar with other countries and their pharmaceutical institutions, to communicate this knowledge to the *Journal*. What has been done by others, if it cannot serve as a guide, may at least teach us how to avoid errors and mistakes.

THE LIABILITY OF APOTHECARIES TO THE SPECIAL TAX AS LIQUOR DEALERS.—Through Mr. Stokley, Internal Revenue Assessor in Philadelphia, we have obtained a copy of the following letter of Gen. Pleasanton, which explains itself :

TREASURY DEPARTMENT,
Office of Internal Revenue,
Washington, July 7th, 1871.

SIR,—Mr. John M. Maisch, Editor *American Journal of Pharmacy*, 145 North 10th street, Philadelphia, wrote to this office on the 10th ult., and enclosed an abstract from his journal, respecting which he asks my opinion and decision. That abstract is as follows: "Apothecaries are, therefore, after the 30th of April last, subject to the same liability as any other person for the sale of distilled spirits, wines or malt liquors in any quantity, and without reference to the purposes for or manner in which they are sold, that is to say, alcohol in any form and for whatever purpose, and for the dispensing of such spirits and liquors upon physicians' prescriptions and for strictly medicinal purposes."

After this explanation made to his readers and subscribers, the editor adds that, though the decision is probably valid in law, he doubts the intention of Congress of imposing this tax upon apothecaries, and thus stamping them as liquor dealers.

I cannot perhaps respond to the editor's request for my decision in any way more satisfactory than by giving the ruling of this office upon the subject. It is as follows: "If apothecaries sell or offer for sale foreign or domestic distilled spirits, wines or malt liquors in any quantity, they subject themselves by so doing to all the liabilities of liquor dealers; but apothecaries can use spirits and wines in making any and all the compounds legitimately required in their business without incurring any liability by so using them; *provided* the spirits and wines so used lose their identity in the compounds and partake of their medicinal nature."

Apothecaries, therefore, it is seen by this, are not precluded, as the *Journal* states, from dispensing such spirits and liquors upon physicians' prescriptions, and for strictly medicinal purposes.

With regard to the intention of Congress and the editor's doubts respecting it, you will please direct his attention to the fact recorded in the Report of the Commissioner of Internal Revenue, pages 12—14, that my predecessor in office, Hon. C. Delano, called the attention of Congress to certain defects, ambiguities, &c., in the Act of July 14th, 1870, among which was this respecting apothecaries. As Congress has not seen fit, notwithstanding my own remonstrances were added to those of Mr. Delano, to make any modification in favor of apothecaries, there can be no longer any just cause for doubt of its intention.

Mr. Maisch asks also whether apothecaries are required to make application for a liquor dealer's license, or to wait until they have received notice before paying the special tax. In reply to this, your attention, for his instruction, is directed to Sect. 72 of the Act of June 30, 1864, as amended, from which it may be known that every person is required to register his name or style, trade, business, &c., or, in other words, to make application. Therefore apothecaries, if they intend to subject themselves to the liabilities of liquor dealers, must make their application.

Respectfully,
W. S. STOKLEY, Esq., Assessor 2d Dist.,
Philadelphia, Pa.

A. PLEASANTON, Commissioner.

The annual report of the Commissioner of Internal Revenue on the operations of the internal revenue system for the year 1870, made by Hon. C. Delano, Commissioner, to Hon. Geo. L. Boutwell, Secretary of the Treasury, contains, on page 14, the following:

"The repeal of the special tax upon apothecaries takes effect May 1, 1871. After that time they must either abandon the dispensing and sale of wines and spirits officinal, upon physicians' prescriptions or otherwise, or pay special taxes as liquor dealers, unless there shall be additional legislation upon the subject. So far as they are concerned, the act of July 14, 1870 increases the taxes."

It will be seen from this extract, that the attention of Congress has been drawn to this subject last year by Mr. Delano. We have not read General Pleasonton's remonstrance; but, notwithstanding these two official hints given to Congress proved unavailing, we still beg leave to differ from the Honorable Commissioner, and adhere to our doubts in regard to the intention of Congress to impose the liquor dealers' special tax upon apothecaries. We believe that the last internal revenue law was made to reduce taxation, and it is natural enough to suppose that apothecaries were intended to be relieved from the special tax in common with physicians, storekeepers and others; hence, in our opinion, it was merely an unintentional oversight of Congress not to have incorporated the exemption clause of the old into the new law.

According to the decision of the Internal Revenue Office, apothecaries may use liquors in making all the *compounds* legitimately required in their business, without thereby becoming liquor dealers, *provided the liquors so used lose their identity*. To dispense medicines upon physicians' prescriptions is certainly a legitimate occupation of the apothecary. *Spir. Vini Gallici* is certainly a legitimate medicine. But if the physician prescribes the latter, as he frequently does in a variety of diseases, the apothecary becomes a liquor dealer, unless the physician orders something else to be added, whereby *the spirit loses its identity*.

There are apothecaries who use in their business an amount of liquors in value beyond the limitation of the former law, or who, from the nature of their locality, must keep larger quantities for sale; they had already been subject to the special tax of liquor dealers. There are some who make it their business to sell liquors under the cloak of medicine, and such should, as a matter of course, be liable to the same special tax. The large number, however, who conscientiously adhere to their duties as apothecaries, and many of whom probably require annually for these purposes liquors barely exceeding in value the amount of the tax, do not desire to become liquor dealers; we hope they will take the necessary steps to lay the matter before Congress, and if this is done in a proper way, we believe the desired relief will be granted.

THE ELIXIR NUISANCE.—We have received a letter on this subject, which contains some excellent suggestions with a view of abating what has become a nuisance, that we have requested permission from the author for its publication:

BALTIMORE, July 12th, 1871.

Editor of Am. Jour. Pharmacy.

Dear Sir.—In the last number (July) of your valuable journal, I notice a very commendable article written upon "Modern Elixirs." I have for a long time entertained the same views as expressed by you concerning those preparations. They have at last become a "nuisance" to the dispensing pharmacist. More reasons than one might be adduced to prove them such. I, for one, have never made but the one "Elix. Valerianate Ammonia," because I have felt that the matter should be controlled and checked by our "Colleges of Pharmacy," and not encouraged by me. If we must have the various Elixirs, it seems as though there might be contributions of formulas from individuals connected with our various Colleges of Pharmacy throughout our country, and presented at the meeting of the American Pharmaceutical Association; and from the number received let there be selected (by a Commission appointed for the purpose) the most satisfactory formulas, and recommend them to be adopted as official preparations, so that upon a revision of our national Pharmacopœia they could be inserted as such. I have conversed with several of our leading pharmacists and physicians, and they have expressed their dissatisfaction with the present confused condition of matters as brought about by the introduction of so many Elixirs, and by so many different makers.

I do not write this with the expectation of influencing the Elixir Market in any manner, but merely to inform you that the same feeling exists in our city concerning those preparations that seems to exist elsewhere.

Hoping that you will continue to agitate the subject until the abuses are checked, I remain,

Most respectfully, yours,

E. WALTON RUSSELL.

IMPURE CHLORAL HYDRATE.—During the past winter we have repeatedly taken occasion to lay before the Philadelphia College of Pharmacy the fact that chloral hydrate in the form of cakes of a crystalline structure is (according to our experience) *always* impure, inasmuch as it contains or soon generates notable quantities of hydrochloric acid gas and probably other products of decomposition. This is often not noticed unless the decomposition has made considerable headway. The paper of Mr. Boehme, published in the present number, furnishes another example of this decomposition.

Such impure chloral hydrate can be readily purified by crystallization from warm bisulphide of carbon. It then retains usually a trace of the solvent, which, however, rapidly evaporates on trituration in a mortar. Crystallized chloral hydrate is, and has been for months, an article of commerce; the commercial must have been crystallized from another menstruum, the crystals differing in shape and appearance from those obtained from the bisulphide.

Crystallized pure chloral hydrate does not attract moisture from the atmosphere, but evaporates completely, though slowly, at the ordinary temperature, without becoming moist; on being approached with a glass rod dipped in ammonia, white fumes are *not* produced. These two simple tests readily distinguish it from the cake chloral hydrate.

In this connection we desire to point out to pharmacists and to physicians the importance of using none but that occurring in well defined crystals. It is not improbable that many of the bad effects complained of by some physicians, as well as some of the decompositions that are said to have occurred in medicines, may be altogether attributable to impure chloral hydrate in a state of decomposition.

THE COMMISSIONERS appointed by the Mayor of New York have given notice, through the newspapers (English and German), that the examination of all druggists and prescription clerks will take place on Tuesdays and Thursdays of each week, between the hours of 10 A. M. and 3 P. M. Druggists will be examined first, in alphabetical order, afterwards the clerks.

The subjects for examination will be chemistry, poisons and their antidotes, practical pharmacy and officinal botany, materia medica and adulterations of drugs and prescriptions.

According to the advertisements in the German language, the following are among the subjects for examination, evidently mistakes made in translating the original notice: Practice of medicine (*praktische Heilkunde*), botanical drugs and the making (*Bereitung*) of drugs.

The notice is signed by all the Commissioners, Professor Doremus, President, and by Mr. Louis G. Branda, as Secretary.

We learn that the fees for certificates have been fixed as follows: Druggists and drug clerks, \$30; prescription clerks, \$10; and that the probable amount of fees for the first registration is estimated at \$23,000. Wherein the distinction is drawn by the board between drug clerks and prescription clerks, we have not been informed.

MURDERING THE UNBORN.—A correspondent has sent us the circular of a New York firm, which is being mailed to all prominent druggists, offering for sale the female monthly pills of a notorious woman who inhabits a large mansion near Fifth Avenue, in New York City, and whose career was there, recently, pictured in a court of justice, during the trial of an abortionist, more unlucky than she, who has thus far escaped the punishment so justly deserved.

For the information of the agent of this vile nostrum we would state that in the State of Pennsylvania he has made himself liable to the provisions of the law against the circulation or distribution of publications relating to medicines for females, and that the penalty for such an offence is a fine not exceeding one thousand dollars, and imprisonment not exceeding six months.

The enactment of similar laws in other States would at least lessen the opportunities and facilities of procuring the means for murdering the unborn.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Opium and the Opium Appetite, with notices of alcoholic beverages, cannabis indica, tobacco and coca, and tea and coffee in their hygienic aspects and pathological relations. By Alonzo Calkins, M.D. Philadelphia: J. B. Lipincott & Co. 1871. 8vo, 390 pages.

An interesting volume, similar in some respects to Cooke's *Seven Sisters* of

Sleep, but mainly confined to opium and its abuses. The drug is considered in its historical, commercial, pharmacological, physiological, pathological, &c., relations, and the effects of its popular use are afterwards contrasted with those of the other stimulants mentioned in the title. The legislation against stimuli is finally considered, and, after a historical review, the author pronounces against any attempt at prohibitory laws and in favor of a regulative system. The enormous consumption of stimulants by the inhabitants of all countries is graphically sketched, and the beneficial influence of some as contrasted with others dwelled upon. Thus we find in Chapter XXIV, entitled *The Alternative—the Poppy or the Vine—Which?* the following paragraph: "The main conclusion fairly deducible from such a chain of correlative facts as has just been adduced is undoubtedly and unmistakably this: that when pure wine, made in harmony with nature's teachings, shall have superseded the animalizing products of the still and those more poisonous liquids from the chemical laboratory, then shall sobriety universally prevail and 'the land have rest.' . . . The importation of wines into Great Britain for the year 1857 were 6,600,000 gallons; for 1867, 13,750,000 gallons. The amount in gallons of alcoholic liquors consumed in the kingdom was, for 1857, 24,150,000; for 1867, 21,200,000. As wine increases whiskey declines."

The author's diction is piquant, almost aphoristical, and sometimes poetical, but always clear. The text is frequently interspersed with historical and mythological anecdotes, and with quotations from English and French literature and the classics. Some incongruities and errors have been observed in Chapter IV: *The Pharmacology of Opium*, where (on page 43) opium is termed a "crystalline liquid," a "gum," and an "extract." On page 49, one grain of opium is said to be equal to 1.5th grain morphia (should be 1.10th to 1.8th gr.) and to 24 minims (should be drops) of laudanum. On pages 36 and 43 the erroneous statement is made that Europe and America are mainly supplied with opium from India.

The general getting up of the work is creditable to the publishers, and we heartily commend its perusal to those who feel an interest in discouraging the use of opium and other stimulants as means of intoxication.

Thirteenth Annual Report of the Corporation of the Chamber of Commerce of the State of New York for the Year 1870-71. In two parts. Compiled by George Wilson. Secretary. New York: Press of the Chamber of Commerce. 1871. One volume. 8vo, 368 pages.

The first part contains, upon 153 pages, the transactions of the Chamber; the second part, upon 207 pages, the special reports on the various branches of commerce.

The report of the drug trade has been prepared by Mr. Daniel C. Robbins, and consists of a review of the drug trade of the United States for the year 1870; a statement of the average annual import of drugs, &c., for the past three years, including former and present duty; a review of the New York market and a tabular statement of the monthly fluctuations of drugs and chemicals during 1870.

Discours sur la Falsification de la Bière par la Picrotoxine. Par H. Bonnewyn, pharmacien à Ixelles. Bruxelles: Henri Menceaux. 1871. 8vo. 15 pages.

A discourse on the falsification of beer by picrotoxine.

This is a reprint from the *Bulletin de l'Académie Royale de Médecine de Belgique*. The author maintains that the falsification of beer with *cocculus indicus* should be proven by the separation of picrotoxin, and defends this position against Mr. Depaire, who regards physiological experiments upon fishes as sufficient and preferable. The author recommends the following test for picrotoxin: To 2 to 5 centigrammes of it 10 or 12 drops monohydrated sulphuric acid is added; in 4 or 5 minutes an amber yellow color is produced, which slowly passes into a saffron yellow, and is then permanent.

Report of an Inquiry in regard to the Prevalence and Ravages of the Colorado Potato Beetle (Doryphora decemlineata, Say) in the Western portion of Ontario, with the results of some experiments on the insect with various poisonous substances, and instructions for using the best practical remedies. By William Saunders, Vice-President, and Edmund B. Reed, Secretary-Treasurer of the Entomological Society of Ontario. Toronto, 1871.

The authors visited, in June last, the western part of Ontario, at the request of Hon. John Carling, Commissioner of Agriculture and Public Works for that Province. They observed that destructive beetle in such enormous numbers as to create serious apprehension of its extension over the greater portion of the Province. As the best means to destroy it without injuring the crop, they recommend a mixture of 1 part Paris green with 10 or 12 parts of flour, sprinkled over the potato vines early in the morning.

Twenty-eighth Annual Report of the Managers of the State Lunatic Asylum, for the Year 1870. Transmitted to the Legislature March 25, 1871. Albany, 1871.

The report includes the Treasurer's account and the report of the Superintendent, which contains well-arranged statistical tables, such as are usually expected from the medical head of such an institution.

The Illustrated Industries of California. San Francisco, 1871.

A cleverly gotten up book of 94 large octavo pages, which, however, gives no information of the extent of California industry, but under that garb merely advertises one firm of San Francisco for each industrial branch.

OBITUARY.

PROFESSOR DR. WILHELM WICKE, of Göttingen, died there June 6th. His researches were mainly devoted to agricultural chemistry.

DR. JULIUS SCHACHT, one of the directors of the North German Apothecaries' Society, died at Berlin June 20th.